

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-9. (cancelled)

10.(currently amended) A method for increasing the size of starch grains and/~~or~~ the starch content of a plant or of a plant part, comprising the step of switching off the gene coding for starch phosphorylase by introducing a mutation in the genome of said plant to reduce the activity of starch phosphorylase in said plant, thereby increasing the size of starch grains and the starch content of said plant or said plant part ~~in which a gene of a starch phosphorylase in cells of the plant is switched off.~~

11.(currently amended) A method for obtaining plants or plant parts that produce starch grains of increased size ~~[[or]]~~ and with higher starch content, said method comprising switching off a gene of a starch phosphorylase in cells of the plant by introducing a mutation in the genome of said plant.

12.(currently amended) The method according to Claim 11, further ~~comprising the steps of switching off, by inserting~~

~~nucleotide(s), a gene coding for said endogenous starch phosphorylase in a plant cell, and~~ the step of regenerating the plant from the transformed cell, said transgenic plant thus obtained having starch grains of increased size, and/or a higher starch content.

13. (currently amended) The method according to claim 10, ~~in which~~ wherein the plant is potato, broad bean, beet, spinach, pea, wheat, maize or rice.

14-18. (cancelled)

19. (new) The method according to claim 11, wherein the plant is potato, broad bean, beet, spinach, pea, wheat, maize or rice.

20. (new) The method according to claim 10, wherein the step of introducing a mutation is performed by inserting nucleotide(s) in the gene coding for the endogenous starch phosphorylase.

21. (new) The method according to claim 11, wherein the step of introducing a mutation is performed by inserting nucleotide(s) in the gene coding for the endogenous starch phosphorylase.

22. (new) The method according to claim 10, wherein the step of introducing a mutation is performed by insertion of T-DNA or by insertion of transposons.

23. (new) The method according to claim 11, wherein the step of introducing a mutation is performed by insertion of T-DNA or by insertion of transposons.

24. (new) The method according to claim 10, wherein the introduction of a mutation is performed by transferring vectors into the protoplasts, by electroporation, by using a gene gun, or by cytoplasmic or nuclear micro-injection.

25. (new) The method according to claim 11, wherein the introduction of a mutation is performed by transferring vectors into the protoplasts, by electroporation, by using a gene gun, or by cytoplasmic or nuclear micro-injection.

26. (new) A method for increasing the size of starch grains and the starch content of a plant or of a plant part, comprising the steps of:

a) switching off a gene coding for starch phosphorylase in a plant cell by introducing a mutation; and

b) regenerating the plant from the transformed cell,

said transgenic plant thus obtained having starch grains of increased size and a higher starch content.

27. (new) The method according to claim 26, wherein said mutation in step a) includes the insertion of nucleotides in the gene coding for starch phosphorylase.

28. (new) The method according to claim 26, wherein the introduction of a mutation in step a) is performed by transferring vectors into the protoplasts, by electroporation, by using a gene gun, or by cytoplasmic or nuclear micro-injection.

29. (new) The method according to claim 26, wherein the plant is potato, broad bean, beet, spinach, pea, wheat, maize or rice.

30. (new) A method for producing starch comprising the steps of:

a) obtaining plants or plant parts that produce starch grains of increased size and with higher starch content as defined in claim 11; and

b) extracting starch from said plants or plant parts obtained in step a).